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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,872	03/04/2004	Sung Chol Yang	1594.1375	5243
21171	7590	07/26/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LEUNG, PHILIP H	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,872

Applicant(s)

YANG, SUNG CHOL

Examiner

Philip H. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-4-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The drawings filed on 3-4-2004 are acceptable.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US 5,090,613).

Lee shows a magnetron for microwave ovens, comprising: an anode cylinder 2; a plurality of vanes 10 arranged in a radial direction inside of the anode cylinder, each of the vanes being plated with brazing material having a predetermined plating depth to prevent an insufficiency of the brazing material or an excess thereof; one or more rings 12 to connect with the plurality of the vanes and to electrically connect the plurality of vanes to each other; and an antenna 6 connected to one of the plurality of vanes and radiating microwaves generated from the plurality of vanes, wherein each of the vanes is brazed to one or more of the anode cylinder, of the one or more rings and of the antenna (see Figures 5 and 6 and col. 3, line 6 – col. 5, line 23). It is pointed out that the clause “having a predetermined plating depth to prevent an insufficiency of the brazing material or an excess thereof” is highly relative and inherently met by the amount of plating material as shown in Lee as its brazing process is presumed to work as disclosed.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being obvious over Cecil (5,831,235), in view of Lee (US 5,090,613) or Kurokuzuhara (JP 63-271845) (cited by the applicant).

As set forth above, Lee shows a magnetron for microwave ovens, comprising: an anode cylinder 2; a plurality of vanes 10 arranged in a radial direction inside of the anode cylinder, each of the vanes being plated with brazing material; one or more rings 12 to connect with the plurality of the vanes and to electrically connect the plurality of vanes to each other; and an antenna 6 connected to one of the plurality of vanes and radiating microwaves generated from the plurality of vanes, wherein each of the vanes is brazed to one or more of the anode cylinder, of the one or more rings and of the antenna. Similarly Kurokuzuhara also shows a magnetron and the method of making a magnetron comprising: an anode cylinder 1; a plurality of plate-shaped vanes 2 radially arranged along an inside surface of the anode cylinder 1; one or more strap rings 4 to electrically connect the plurality of the vanes to each other; and an antenna 5 connected to one of the plurality of vanes to radiate microwaves generated from the vanes; wherein each of the vanes is plated with a brazing material to be brazed to one or more of the anode cylinder, of the one or more strap rings and of the antenna (see Figures 1-3 and the English abstract). Therefore, Lee or Kurokuzuhara shows every feature as claimed except for the explicit showing of the plating depth of the brazing material. However, it is a basic engineering principle to determine an


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optimal amount of brazing material to use to obtain an acceptable brazed product with minimum cost. It is well known that the amount is a tradeoff between cost and quality of the brazing operation and brazing materials, such as silver, are very expensive, it would have been obvious to one of ordinary skill in the art to modify Lee or Kurokuzuhara to use just enough of the brazing material for a good brazing process in order to keep the cost at the minimum. The exact amount can be easily determined by an ordinary artisan through routine trial and error experimentation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 472-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
7-22-2005